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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/506,714

09/07/2004

Ki Y. Nam

4711P010

4885

8791

7590

12/14/2005

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EXAMINER

SHINGLETON, MICHAEL B

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AKC

Office Action Summary

Application No.

10/506,714

Applicant(s)

NAM

Examiner

Michael B. Shingleton

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/17/2004 25 sheets

- 4) ☐ Interview Summary (PTO-415)  
Paper No(s)/Mail Date. 9/17/2004
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

*Michael B. Shingleton*  
MICHAEL B SHINGLETON  
PRIMARY EXAMINER  
ART UNIT 2817

## DETAILED ACTION

### *Claim Objections*

Claim 14 is objected to because of the following informalities: Claim 14 recites "a third means coupled to the third means". From the specification it is clear that applicant actually meant "a third means coupled to the second means". Accordingly, for examining purposes the claims will be read as "a third means coupled to the second means". Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6-8, 12-14, 19-21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seike et al. 6,243,576 (Seike) in view of Chiba et al. 5,029,298 (Chiba) and Miyamae et al. 5,818,215 (Miyamae).

Figure 18 and the relevant text of Seike discloses a RF system and method of providing spectral depiction of an RF signal which includes providing an RF source such as from a cellular telephone (See column 2, around line 7) and a spectrum analyzer section (This is referred to sometimes in the claims as a "digital analysis circuit" or "second means for performing digital signal analysis"). The spectrum analyzer section is composed of at least a mixer 204, a filter 206, a logarithmic detector 213, and an A/D converter. While the coupler between the RF source and the spectrum analyzer section is not shown, there is clearly a coupler or "first means" positioned between the RF source and the spectrum analyzer in Seike otherwise the spectrum analyzer could not analyze the RF source. The connection between the A/D converter 216 and the display unit 217 of Seike forms a third means or interface, but Seike is silent on the construction of the display means as including a computer and is silent on connecting the device of Seike to another computer on the internet so as to provide the spectral display to another computer. Seike is silent on the structure of the RF source or cellular telephone. The conventional cellular telephone includes a power amplifier as disclosed by Chiba (See Figure 4 and column 2, around line 52). Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the generic cellular phone of Seike with one that includes an RF power amplifier

because as the Seike reference is silent on the exact structure of the cellular telephone one of ordinary skill in the art would have been motivated to use any art-recognized equivalent cellular telephone including one that has a power amplifier such as the one taught by Chiba.

As recited above Seike is silent on the details of the construction of the display unit 217 and is silent on the interface being connected to another computer by an internet connection.

Miyamae discloses the display unit for a spectrum analyzer can be composed of a computer, i.e. cpu that communicates with memory and the video display means so as to provide adjustment to the spectrum analyzer and control the information displayed (See column 1 around line 28).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replaced the generic display device of Seike with one that includes a computer that provides adjustment to the spectrum analyzer because as the Seike reference is silent on the exact structure of the display device one of ordinary skill in the art would have been motivated to use any art-recognized display device including a display device that employs a computer such as the one taught by Miyamae. One of ordinary skill would have been further motivated to make the combination so as to allow for computer control of the spectrum analyzer which allows for reprogramming and thus the control circuit can be changed for changes in the circuit such as aging.

As to the internet connection, the examiner take Official Notice that the use of the internet to connect two computer devices so as to share information is conventionally known in the art. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided an internet connection to the device made obvious above so as to allow the computer device of the device above to share information with other computer devices. One of ordinary skill in the art would have been further motivated to make the combination so as to allow remote access to the information gather by the device made obvious above as this is one of the conventionally known purposes of the internet.

Claims 2-4, 5, 9-11, 15-18 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seike et al. 6,243,576 (Seike) in view of Chiba et al. 5,029,298 (Chiba) and Miyamae et al. 5,818,215 (Miyamae) in further view of as applied to claims 1, 6-8, 12-14, 19-21 and 26 above, and further in view of either Bernstein 4,118,666 (Bernstein) or Doi 6,060,878 (Doi).

Sieke is silent on the construction of the variable oscillator 205 and circuitry that provides the signal that causes the sweeping of the frequency of the variable frequency oscillator 205.

In a typical spectrum analyzer the variable frequency oscillator is typically formed by a VCO and the sweep control section typically includes a ramp generator as shown by Figure 1 of Bernstein and

Figure 5 of Doi. Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the generic variable frequency oscillator and the circuitry that provides for the signal that causes the sweeping of the frequency of the variable frequency oscillator of Seike with a VCO and ramp generator because as the Seike reference is silent on the exact structure of the variable frequency oscillator and the circuit that provides the control signal thereto one of ordinary skill in the art would have been motivated to use any art-recognized variable frequency oscillator and circuitry that provides for the signal that causes the sweeping of the frequency of the variable frequency oscillator equivalent including a VCO and ramp generator such as the ones taught by either Bernstein or Doi.

With respect to claims like claims 4, 5, 11, 17, 18, 22 and 25 here a “blanking” signal is produced from the ramp generator that corresponds to the “zero VDC” point of the ramp signal. This signal is recited as being fed into the output of the log detector. Note that there is no specific definition of this signal is set forth by applicant. In addition to that above, Bernstein discloses a timing pulse generator circuit 15 that generates a INDEX pulse that is responsive to the zero VDC as is clearly shown in Figure 1 of Bernstein and this INDEX signal is fed to the MEM element 18 which is on the output side of the log detector and thus the INDEX signal is fed into the output of the log detector. The INC pulses are seen as clearly indexed to the zero VDC signal and are applied to the detector 16 itself and is applied to the A/D converter. Thus these signals of Bernstein are seen as a blanking signal that corresponds to the zero VDC point of the ramp generator. These timing signals are just that they ensure the proper timing of the operation of the circuit so that the proper values are stored into memory (See at least column 3, around line 30 of Bernstein).

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to have triggered off the ramp generator of the combination made obvious above so that the proper values are stored into the Data Ram i.e. memory so that the entire band sweep can be displayed as taught by Bernstein.

With respect to claims 3, 16 and 23 the timing pulse generator means in the combination made obvious above is an A/D converter in that the analog signal, i.e. the ramp signal is converted to a digital signal having the values of “0” or “1”. Note that the idea of a spectrum analyzer is to convert the ramped voltage and thus the ramped frequency to the spectral depiction of the RF output. This converter being connected to the output of the input of the VCO is seen as being “in parallel” since this is the same connection as that of applicant’s invention.

#### *Conclusion*

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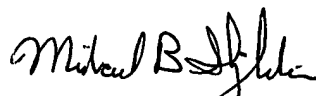
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note that a diode detector is also known as a logarithmic detector as disclosed by Richardson 5,574,360.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael B. Shingleton whose telephone number is (571) 272-1770.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (571)272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306 and after July 15, 2005 the fax number will be 571-273-8300. Note that old fax number (703-872-9306) will be service until September 15, 2005.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MBS  
November 30, 2005

  
Michael B Shingleton  
Primary Examiner  
Group Art Unit 2817